Regional Landscape Unit Planning Strategies: A Provincial Summary Report of the 1999 Revisions

Ministry of Forests
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Acronym List

BEC	Biogeoclimatic Ecosystem Classification
BEO	Biodiversity Emphasis Option
CCLCRMP	Central Coast Land and Coastal Resource Management Plan
CCLUP	Cariboo-Chilcotin Land Use Plan
KBLUP	Kootenay-Boundary Land Use Plan
LRMP	Land and Resource Management Plan
LU	Landscape Unit
LUPG	Landscape Unit Planning Guide
NDT	Natural Disturbance Type
OGMA	Old Growth Management Area
PAS	Protected Areas Strategy
RLUPS	Regional Landscape Unit Planning Strategy
RMAC	Revelstoke Minister's Advisory Committee
THLB	Timber Harvesting Land Base
TSA	Timber Supply Area
VILUP	Vancouver Island Land Use Plan
WTR	Wildlife Tree Retention

Executive Summary

Forest regions throughout BC submitted a Regional Landscape Unit Planning Strategy (RLUPS) in 1997 as a plan for establishing landscape unit planning initiatives. In 1999, regions revised their strategies to ensure compliance with the newly released *Landscape Unit Planning Guide* (LUPG), a document that details the principles and processes behind landscape unit planning. The Ministry of Forests (MoF) Forest Practices Branch reviewed the strategies and found they were generally consistent with the principles of the LUPG as well as Chief Forester direction as outlined in chapter 5 of *Higher Level Plans: Policy and Procedures*. Most information gaps and issues with RLUPS reports were resolved through discussion with regions and districts.

RLUPS reports provide information on a variety of criteria necessary for implementation of landscape unit planning, an initiative targeted for completion by the year 2002. Each district included a schedule detailing implementation of landscape unit planning objectives including the priority of establishing old growth management areas (OGMAs) and managing for wildlife tree retention (WTR). Review of the reports show that forest regions are making progress toward achieving this 2002 goal; a reassessment in December of 2000 will confirm feasibility. Some districts expressed concern with meeting the target date because of staffing and mapping resource shortages. Implementation was deferred in some districts or planning areas pending completion of regional and sub-regional planning initiatives.

The RLUPS review identified landscape unit boundaries and biodiversity emphasis that changed with the release of the 1999 revised report. Landscape unit boundaries generally met criteria required in the LUPG and *Higher Level Plans: Policy & Procedures*; districts were required to justify any discrepancies. Over 1200 landscape units have now been delineated throughout the province, the majority between 50,000 and 100,000 ha in size. Biodiversity emphasis assignment for landscape units nearly matches the 10% high, 45% intermediate and 45% low timber harvesting land base distribution requested for each region. Districts and regions that varied from this target generally fell within an acceptable range. Several forest districts split biodiversity emphasis in landscape units to better represent and conserve local ecological values.

Regions designated landscape units with issues potentially impeding implementation as "red flagged" in the RLUPS report. Some were liberal when designating these areas and a review subsequently found that some could be de-classified. Currently, 44% of landscape units in the province (excluding those managed under the CCLCRMP) are red flagged. Districts are working to resolve red flagged issues with stakeholders. Other issues surrounding landscape unit planning were raised in the RLUPS review and are summarised in this document.

Data analysis, legal establishment of objectives and monitoring will be the next steps in landscape unit planning. MoF district staff will be responsible for completion of this work in co-operation with Ministry of Environment, Lands & Parks (MELP) staff and with support from regions and headquarters through communication and extension. Forest Practices Branch, in co-operation with Habitat Branch, MELP, will lead the development of additional policy and procedures as necessary to support implementation.

1.0 Background

1.1 Regional Landscape Unit Planning Strategies

In 1997, at the direction of the Chief Forester, each region in the Ministry of Forests (MoF) developed a Regional Landscape Unit Planning Strategy (RLUPS) in co-operation with the Ministry of Environment, Lands & Parks (MELP). The purpose of this strategy was to provide information on tasks necessary for implementing landscape unit planning, an initiative with landscape-level biodiversity management as a priority.

Each RLUPS report included the following tasks:

- Delineation of landscape unit boundaries;
- Assignment of biodiversity emphasis;
- Creation of a schedule for landscape unit planning;
- Identification of types of objectives to be established;
- Creation of a public participation strategy;
- Identification of informational needs and required resource inventories.

Districts considered both ecological and economic measures when delineating landscape unit boundaries and assigning biodiversity emphasis. Schedules included in the RLUPS provide a broad plan for how landscape unit objectives such as old growth management areas (OGMAs) and wildlife tree retention (WTR) will be established. District Manager approval and endorsement by regional management were required for Regional Landscape Unit Planning Strategies, which must be followed when implementing landscape unit planning.

1.2 Purpose of the 1999 RLUPS Review

In March 1999, concurrent with the release of the *Landscape Unit Planning Guide* (LUPG), regions were advised to revise their landscape unit planning strategies for consistency with the new LUPG as well as chapter 5 of *Higher Level Plans: Policy and Procedures*. Ministry of Forests staff created guidelines to review compliance of strategies and to evaluate and ensure the presence of the following RLUPS components:

- Implementation schedules – documentation of changes and status;
- Landscape unit boundaries – documentation of changes and status;
- Biodiversity emphasis designation – documentation of changes and status;
- Adequate industry and public involvement;
- Identification of new issues or impacts (i.e., red flagging).

The intention of the review was not to rewrite the 1997 strategy, but to identify changes and specific issues requiring attention in landscape units. Districts identified landscape units as "red flagged" where high timber supply impacts or the presence of biodiversity conservation issues could potentially impede landscape unit planning implementation. Districts would then develop mitigation strategies for these landscape units.

The Chief Forester received a revised copy of each landscape unit planning strategy in July 1999 for his comments. The strategies were subsequently reviewed in detail by staff at the Forest Practices Branch, in consultation with MELP staff, for submission to the Chief Forester. During the review, most gaps and issues regarding compliance and content of strategies were resolved through discussions with regions and districts. Once these steps were completed, the Chief Forester responded in writing to each region with comments for consideration.

1.3 Use of the RLUPS Reports

The revised RLUPS now provide a framework for implementing objectives to manage biodiversity conservation throughout the province of BC. Over the next two years, they will guide the legal establishment of landscape units and priority objectives for old growth management areas and wildlife tree retention. Legally binding chief forester direction requires landscape unit planning to be consistent with RLUPS. Each RLUPS report will serve as a living document, continually evolving as progress is made in landscape unit planning.

1.4 Report Structure

This summary report provides an overview and ar[illegible]e six revised RLUPS documents.

- Section 2 evaluates each region's RLUPS based on the requirements of the review outlined above in section 1.2. More specifically, RLUPS compliance with Chief Forester direction and the Landscape Unit Planning Guide is a priority and evaluated in section 2.1. Scheduling updates and amendments including deferrals of some districts and planning areas for biodiversity assignment and boundary delineation follow in section 2.2. Changes to landscape unit boundaries and an analysis of trends regarding number, size, and average area provincially are discussed in 2.3. Biodiversity emphasis designation in section 2.4, an analysis of red flag issues in 2.5 and discussion of public and industry involvement in 2.6 concludes this section.

- Section 3 includes a tabular summary of key data derived from each forest region's RLUP Strategy. Regionally specific issues identified in each report are also listed.

- Section 4 discusses the future direction and role of RLUPS with reference to data analysis, objective writing, monitoring and communication and extension.

- Section 5 contains concluding remarks.

For more detailed information, refer to the specific RLUPS available through each region.

2.0 Regional Landscape Unit Planning Strategies Review

2.1 RLUPS Compliance with LUPG and Chief Forester Direction

The 1999 RLUPS review guidelines required an assessment of compliance with Chief Forester direction as outlined in chapter 5 of *Higher Level Plans: Policies & Procedures (HLP:P&P)* and the newly released LUPG. Each forest district provided a compliance matrix for the RLUPS outlining whether landscape unit boundary delineation and biodiversity emphasis assignment were consistent with criteria outlined in *HLP: P&P*. The RLUPS were assessed for their adherence to such policies as not crossing landscape unit boundaries with district or regional boundaries, considering Resource Management Zone or Local Resource Use Plans for boundary location, and assigning only one biodiversity emphasis designation per landscape unit. Through this task, districts were able to identify landscape units where implementation problems exist and thus need to be red flagged. The compliance matrix also ensured that other tasks were completed such as creating summaries to show timber value ranking in each landscape unit. A copy of the compliance matrix can be found in Appendix 1.

All districts throughout the province, except several that deferred landscape unit delineation and biodiversity emphasis assignment pending sub-regional planning approval, submitted compliance matrices illustrating consistency with both the LUPG and *HLP: P&P*. Forest Practices Branch found some gaps in information or inconsistencies that were generally solved through correspondence with individual districts. Regions justified some inconsistencies with Chief Forester direction as being necessary for successful implementation such as splitting biodiversity emphasis in landscape units or placing landscape unit boundaries across more than one district. Planning initiatives set into motion prior to the release of the *HLP: P&P*, such as the Revelstoke Minister's Advisory Committee in the former district of Revelstoke, may not fully comply with Chief Forester direction. Overall, districts were consistent with criteria outlined in the compliance matrices.

2.2 Implementation Schedules

The Forest Practices Code Joint Steering Committee requested districts to establish landscape unit boundaries and biodiversity objectives by July 31, 2002. Priority biodiversity objectives will address the retention of old growth and wildlife tree patches although some districts will establish further landscape unit objectives based on direction from approved Resource Management Zone Higher Level Plans.

The delineation of landscape unit boundaries and the assignment of biodiversity emphasis was deferred in several areas of the province pending recommendations made by Land and Resource Management Plan (LRMP) or other strategic planning tables. These areas are described in Table 1.

TABLE 1. AREAS DEFERRED FROM RLUPS REVIEW

Region	Areas Deferred	Reasons for Deferral
Kamloops	• Lillooet District	• pending completion of the Lillooet LRMP in 2000

Region	Areas Deferred	Reasons for Deferral
Kamloops	• Penticton, Vernon and Salmon Arm Districts	• pending completion of the Okanagan/Shuswap LRMP in 2000
Nelson	• Revelstoke portion of the Columbia District	• pending approval of recommendations from the Revelstoke Minister's Advisory Committee (RMAC)
Prince Rupert	• Cassiar TSA (including Iskut/Stikine LRMP)	• no logging underway or anticipated
Vancouver	• Mid-Coast District and mainland portions of Port McNeill and Campbell River Districts	• pending completion of the Central Coast Land & Coastal Resource Management Plan (CCLCRMP) in 2000

Several districts are also refining their RLUPS submissions based on improvements with data or further consultation with affected stakeholders.

RLUPS include a schedule for landscape unit planning and objective writing to meet the 2002 target implementation date. Districts were asked to prioritise the implementation of landscape units based on criteria listed in Section 6.2 of the LUPG. Landscape units to be treated as high priority for implementation have few options available for retention of old growth, have licensees with active operations in the unit, or possess conflicts focused on resource use or high biodiversity risks. Landscape units with data inventory and analysis issues may also take priority for implementation.

Most districts developed schedules for landscape unit planning implementation and objective writing that correspond to the criteria discussed above. Some districts commented that staffing and resource shortages (mostly regarding mapping materials) would be the main factor impeding expedient implementation. With LUPG training delayed until May of this year, regions have voiced concern with meeting the 2002 target date for implementation of landscape unit planning. The Forest Practices Code Joint Steering Committee will review regional progress in December 2000 to determine whether the 2002 target date is achievable.

2.3 Landscape Unit Delineation

District completion of the compliance matrices discussed in section 2.1 of this report ensured that they adequately considered the requirements for delineating landscape units outlined in *HLP: P&P*. Across the province, each district generally delineated

all landscape units simultaneously using ecological features. Landscape units were placed entirely within a district for administrative purposes and situated with consideration for other planning boundaries such as resource management zones as requested in chapter 5 *HLP: P&P*. Districts were required to provide strong rationales behind the placement and size of both those landscape units that complied with these measures and those that did not. Parks and settlement lands (cities and townships), as well as some other landscape units that do not possess a THLB, will not have their boundaries legally established but their delineation will provide for contiguous regional coverage across the province. Changes made to boundaries were noted in the RLUPS review and were few.

A total of 1257 landscape units[1] have been delineated in British Columbia to date. Existing landscape units range in size from 1,384 ha to 490,365 ha[2] (see Figure 1 and 2), and average 73, 135 ha provincially. The average size landscape unit for northern regions (Prince George and Prince Rupert Forest Regions) is larger at 100,112 ha as compared to southern regions that average 51,669 ha (see Figure 1). For areas providing data, the average forested area for landscape units is 35,942 ha and the average timber harvesting

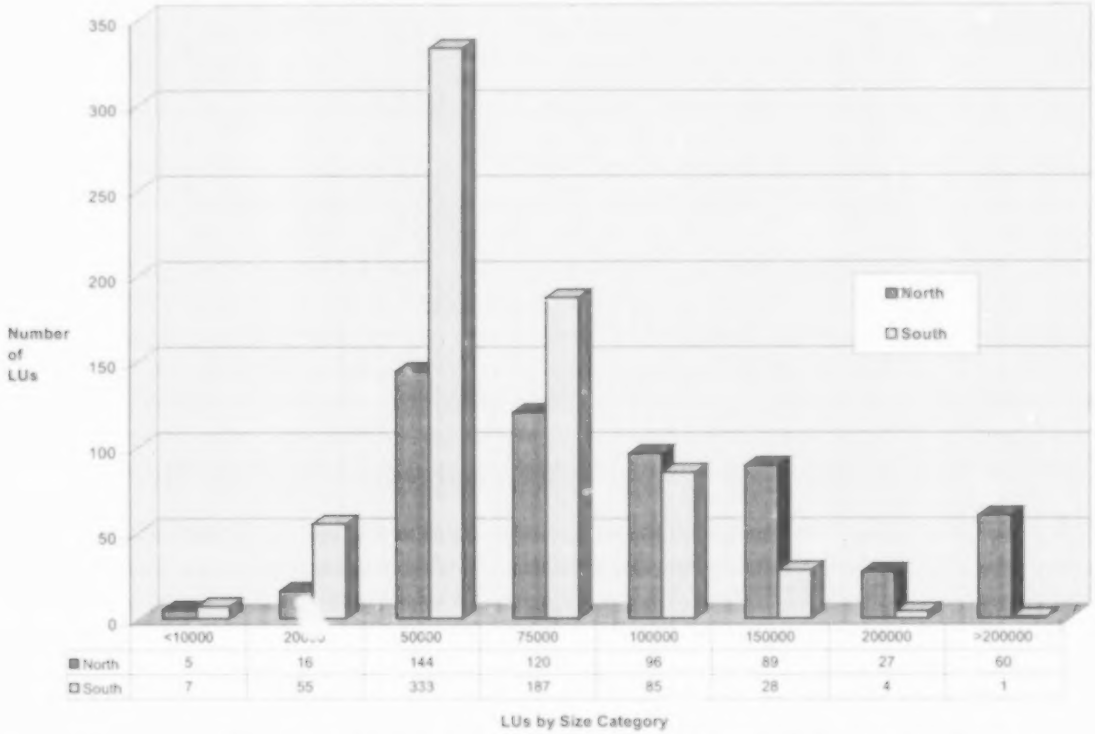


Figure 1. Distribution of Landscape Units by Size (Northern vs. Southern BC)

[1] Includes draft units for the Mid-Coast Land and Resource Management Plan, the Cassiar portion of Bulkley-Cassiar Forest District, and other incomplete LRMP areas that have only preliminary landscape unit boundaries.

[2] This is the Coal River Landscape Unit that was transferred from Bulkley-Cassiar to Fort Nelson Forest District. The boundaries may have changed but the information is currently unavailable. The Tatshenshini River Landscape Unit at 942, 485 ha is actually the largest landscape unit but as it is all in a park, we decided to list a non-park unit as the largest. Tatshenshini unit does not contribute to averages for size.

land base (THLB) is 18,352 ha[3]. Average THLB for landscape units was lower in the coastal regions (Vancouver and Prince Rupert) at 12,975 ha as compared to the interior,

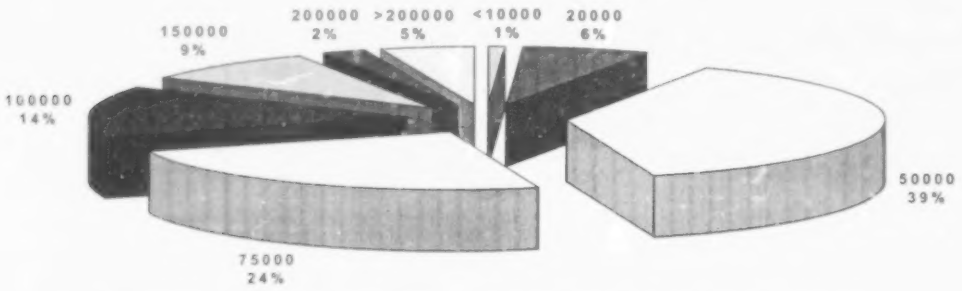


Figure 2. Distribution of Landscape Unit Sizes in BC (ha)

(Total Units - 1257)

which was 23,106 ha. Rugged topography, combined with a longer history of timber harvesting, contributes to the smaller coastal THLB average.

2.4 Biodiversity Emphasis Assignment

Districts designated biodiversity emphasis in the original 1997 RLUPS but the 1999 RLUPS review ensured compliance with the LUPG and Chief Forester direction. Changes to biodiversity emphasis designation were few throughout the province but were highlighted in the 1999 revised report. Each landscape unit was assigned a biodiversity emphasis of high, intermediate, or low based on the timber harvesting land base (THLB) with the exception of deferred areas and parks. These designations are derived from chapter 5 of *HLP: P&P* and, previously, from the Forest Practices Code Biodiversity Guidebook; they take into consideration such factors as relative abundance of wildlife, amount of existing old and mature forest and degree of forest fragmentation.

According to the RLUPS review documents submitted by each region, all regions in the province have achieved the desired proportions of 10% high, 45% intermediate and 45% low biodiversity emphasis for landscape units delineated in planning areas and districts. Any variations to these percentages fall within an acceptable range. Some planning area/district totals varied from the 10-45-45 goal; their numbers have either been addressed or are justified by sub-regional plans as in the former Revelstoke district of Nelson Region. Biodiversity emphasis assignment in some districts will be further refined with the approval of LRMPs and other sub-regional processes.

[3] This does not include, for example, the Cassiar portion of the Bulkley-Cassiar Forest District.

Provincially, the data received so far indicates that we are close to achieving the 10-45-45 goal (see Figure 3). Discrepancies from the provincial target are most likely caused by deferrals in biodiversity emphasis designation, unavailable data and the influence of minister-approved Resource Management Zone Higher Level Plans which permit different allowances for biodiversity emphasis than Chief Forester direction.

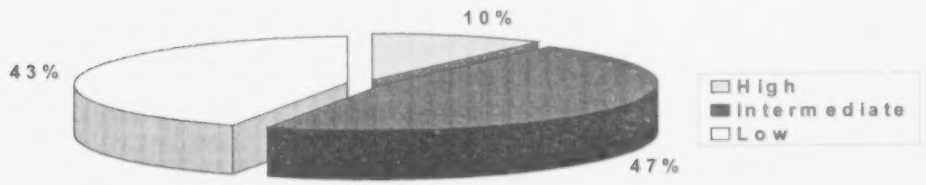


Figure 3. Distribution of Provincial Timber Harvesting Landbase by Biodiversity Emphasis
(Excludes districts where information not available)

Most districts in the province assigned one biodiversity emphasis to each landscape unit though several did choose to assign emphasis by biogeoclimatic ecosystem classification (BEC) zone or variant to better represent ecosystems which may be significant to biodiversity maintenance. Splitting biodiversity emphasis was also thought to help minimise conflicts and short-term impacts as well as enhance ecosystem connectivity in some districts. Six per cent, or 81, of the total number of units are split and the Chief Forester has approved clear rationales for all districts with significant numbers. Nelson Region possesses the highest number of these units at 60, with Kamloops following at 12, Prince George 7 and Vancouver 2. Figure 4 illustrates the percentage of split landscape units in the THLB by biodiversity emphasis option (BEO).

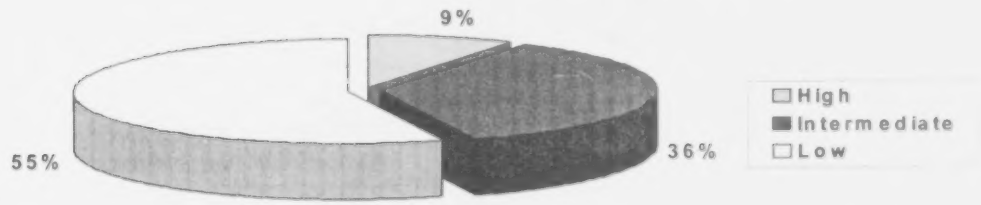
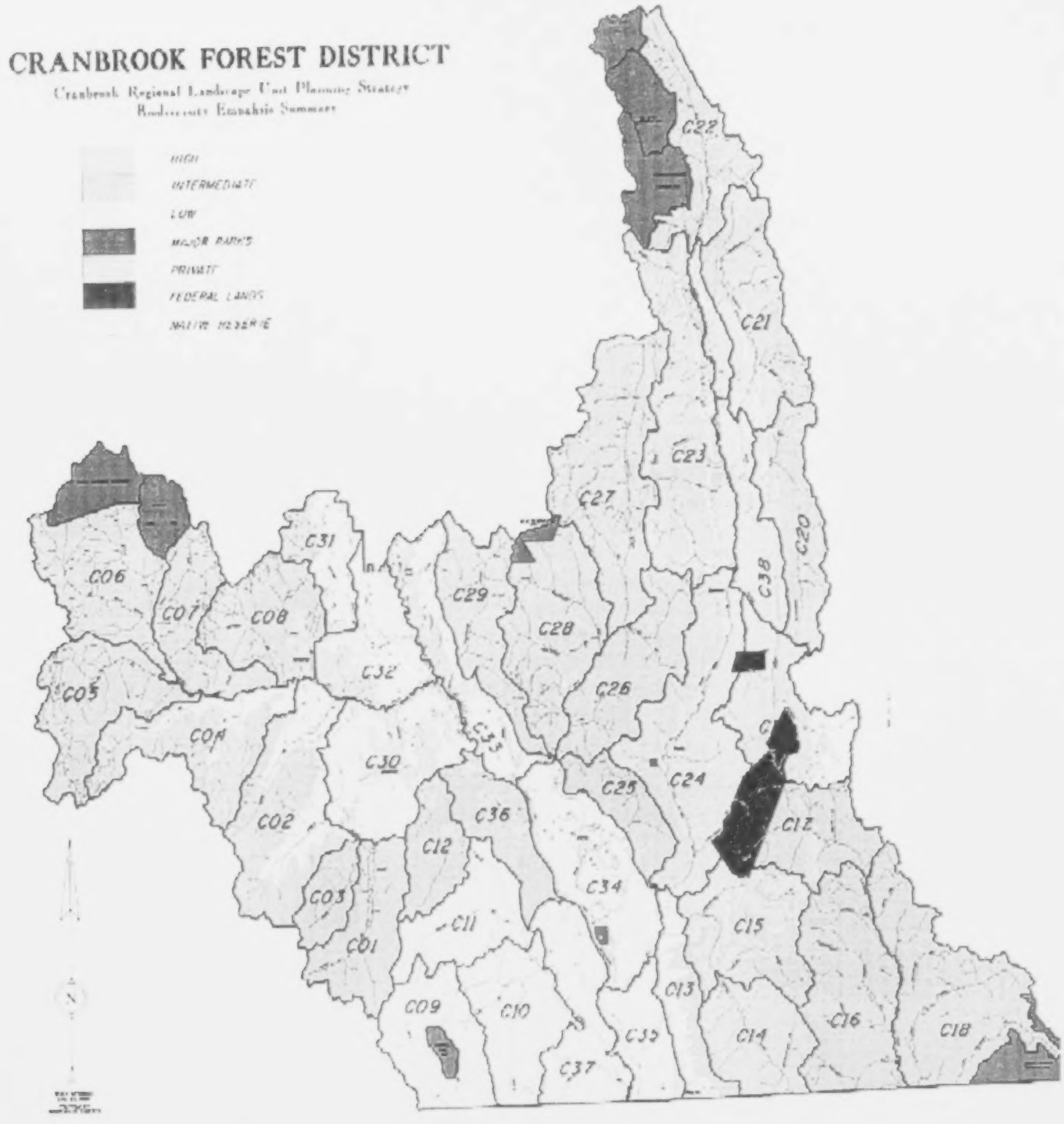


Figure 4. Split Landscape Units by BEO (% THLB)
(Excludes districts where information not available)

Maps of the Kamloops Timber Supply Area (TSA) and the Cranbrook Forest District provide examples of landscape units and biodiversity emphasis distribution. Only one emphasis has been assigned to most landscape units in the Kamloops TSA (Figure 5) although several landscape units have recently been split due to the negotiations phase of the Kamloops LRMP follow-up subcommittees work. The emphasis in Cranbrook District (Figure 6) has been split by variant for seven from a total of 38 units.

FIGURE 5. MAP OF KAMLOOPS TSA SHOWING ONLY ONE EMPHASIS ASSIGNED TO MOST LANDSCAPE UNITS.

FIGURE 6. MAP OF CRANBROOK FOREST DISTRICT SHOWING MORE THAN ONE EMPHASIS ASSIGNED TO LANDSCAPE UNITS.



2.5 "Red Flag" Issues

The RLUPS review required districts to assign red flags to landscape units with issues that could potentially impede implementation such as those with high timber supply impacts or biodiversity conservation concerns. Criteria for red flag status was drawn from a variety of sources including section 5.11.2 of *HLP: P&P*, preparation of table 2.8 in the LUPG, and assessment of landscape unit boundary compatibility with other administrative units such as regional boundary lines.

Districts were able to identify many red flags through completion of the compliance matrix as discussed in section 2.1 of this report. Wherever possible, they were encouraged to resolve red flag issues in consultation with affected stakeholders, a process that caused some boundary and biodiversity emphasis designation changes identified in regional RLUPS revisions. Any outstanding red flags were to be carried forward as information for detailed planning.

Results of the red flagging process are described in Table 8. Based on the numbers provided, 44% of landscape units in the province (excluding those managed under the CCLCRMP) have been assigned red flags. Kamloops and Nelson have the highest percentage of red flagged units totalling 85% and 75% respectively. Red flags were generally assigned to landscape units possessing old seral stage forest deficits, significant licensee concerns, or insufficient data/inventory. In many cases, the reasons for assigning flags encompass a broader range of issues than anticipated and have a wider range of impacts. Districts are working to resolve red flagged issues with stakeholders in many districts, a task that will help to push forward the landscape unit planning process.

The RLUPS review found that some landscape units were identified based on issues not consistent with the definition of "red flag" such as landscape units possessing administrative or process issues. As a result, the Chief Forester has suggested that regions reassess the type and severity of impacts of their red flagged units as they proceed with detailed planning. Red flags can then be lifted from landscape units with more manageable issues. Vancouver Region has now revised its numbers from 85 to 63 and other regions are still in the re-evaluation process.

2.6 Licensee, Public & First Nations Consultation

Completion of the RLUPS review required the involvement of both the forest industry, the public and First Nations groups. Regions were required to inform all parties of the contents of the review in order to identify and address problem areas early on. Districts and regions fulfilled consultation requirements by meeting with licensees and briefing LRMP tables about the RLUPS review as well as by making the report and background analysis available on request. There has been some feedback that more consultation may be required for licensees regarding the impacts of landscape unit delineation, biodiversity emphasis and mitigation. Further consultation may need to be carried out for the public and First Nations groups as well. Some districts have indicated that public feedback on the strategies could be more appropriately incorporated further into the landscape unit planning process and that this will be done.

3.0 Summary of Key Data by Region

Tables 2 to 7 provide regional summaries of the number and size of landscape units, the percent distribution of biodiversity emphasis and the status of regional or sub-regional planning processes from the RLUPS review.

TABLE 2. CARIBOO REGIONAL LANDSCAPE UNIT PLANNING STRATEGY SUMMARY OF KEY DATA

Planning Area	[4]BEO Distribution H:I:L%	Number of Landscape Units	Status of Regional or Sub-regional Plan	Landscape Unit Area (range in ha)
Chilcotin	H: 10.0 I: 45.0 L: 45.0	58	CCLUP and higher level plan approved. Sub-regional plan underway.	21,564 - 104,742
Horsefly	H: 12.0 I: 42.0 L: 46.0	19	CCLUP and higher level plan approved. Sub-regional plan underway.	19,847 - 82,399
100 Mile House	H: 9.0 I: 50.0 L: 41.0	24	CCLUP and higher level plan approved. Sub-regional plan underway.	14,112 - 96,703
Quesnel	H: 10.0 I: 43.0 L: 47.0	38	CCLUP and higher level plan approved. Sub-regional plan underway.	19,185 - 92,794
Williams Lake	H: 10.0 I: 46.0 L: 44.0	21	CCLUP and higher level plan approved. Sub-regional plan under review.	25,905 - 100,882
Cariboo Region Summary	H: 10.0 I: 45.0 L: 45.0	160	Sub-regional planning is underway in almost half the region.	14,112 - 104,742

[4] These numbers are derived from district reports in all regions, so may not correspond exactly to provincial totals generated for BEO as illustrated in Figure 3.

TABLE 3. KAMLOOPS REGIONAL LANDSCAPE UNIT PLANNING STRATEGY SUMMARY OF KEY DATA

Planning Area	BEO Distribution H:I:L%	Number of Landscape Units	Status of LRMP	Landscape Unit Area (range in ha)
Kamloops (Kamloops & Clearwater)	H: 11.0 I: 43.0 L: 46.0	33	Approved, higher level plan in place.	20,206 - 163,388
Lillooet	Deferred until completion of LRMP.	18	Underway.	27,589 - 108,717
Merritt	H: 10.0 I: 48.0 L: 42.0	14	No LRMP initiated.	40,682 - 116,273
Okanagan (Penticton, Vernon & Salmon Arm)	Deferred until completion of LRMP.	26	Underway.	42,054 - 145,730
Kamloops Region Summary	Overall distribution deferred until LRMPs completed.	91	Approved in 2 districts.	20,206 - 163,388

TABLE 4. NELSON REGIONAL LANDSCAPE UNIT PLANNING STRATEGY SUMMARY OF KEY DATA

Planning Area	BEO Distribution H:I:L%	Number of Landscape Units	Status of Regional Plan	Landscape Unit Area (range in ha)
Arrow	H: 10.6 I: 44.9 L: 44.5	31	Kootenay-Boundary Land Use Plan (KBLUP) approved.	18,001 - 89,254
Boundary	H: 10.1 I: 42.4 L: 47.5	11	KBLUP approved.	29,817 - 87,541
Cranbrook	H: 9.9 I: 44.6 L: 45.6	38	KBLUP approved.	12,982 – 71,471
Columbia (Golden)	H: 10.2 I: 45.9 L: 43.9	29	KBLUP approved.	12,889 - 152,301
Columbia (Revelstoke)	H: 17.7 I: 16.7 L: 65.6	17	RMAC recommended plans under review.	11,253 – 100,996
Invermere	H: 9.5 I: 45.2 L: 45.3	38	KBLUP approved.	7,671 - 76,932
Kootenay Lake	H: 9.0 I: 46.0 L: 45.0	24	KBLUP approved.	23,550 - 82,654
Nelson Region Summary	H: 10.3 I: 44.3 L: 45.4	188	Region covered by the KBLUP. Higher level plan establishment under review.	7,671 - 152,301

TABLE 5: PRINCE GEORGE REGIONAL LANDSCAPE UNIT PLANNING STRATEGY
SUMMARY OF KEY DATA

Planning Area	BEO Distribution H:I:L%	Number of Landscape Units	Status of LRMP	Landscape Unit Area (range in ha)
Dawson Creek	H: 10.0 I: 49.1 L: 40.9	32	Approved.	38,836 - 258,278
Fort Nelson	H: 10.0 I: 51.0 L: 39.0	74	Approved.	10,581 – [5*] 490,365
Fort St. James	H: 10.0 I: 49.0 L: 41.0	34	Approved.	36,845 - 170,876
Fort St. John	H: 12.09 I: 37.63 L: 50.28	41	Approved.	35,198 – 384,717
Mackenzie	H: 10.52 I: 52.82 L: 36.66	60	Underway.	31,403 – 311,347
Prince George	H: 10.0 I: 47.37 L: 42.38	44	Approved.	36,123 - 129,675
Robson Valley	H: 9.9 I: 48.0 L: 42.0	24	Approved.	17,651 - 205,856
Vanderhoof	H: 9.4 I: 44.4 L: 46.2	15	Approved.	26,516 – 171,043
Prince George Region Summary	H: 10.34 I: 47.39 L: 42.27	324	Approved in 7 districts.	10,581 – 490,365

[5*] Coal River Landscape Unit.

TABLE 6. PRINCE RUPERT REGIONAL LANDSCAPE UNIT PLANNING STRATEGY SUMMARY OF KEY DATA

Planning Area	BEO Distribution H:I:L%	Number of Landscape Units	Status of LRMP	Landscape Unit Area (range in ha)
Bulkley (Bulkley/ Cassiar)	H: 9.0 I: 45.0 L: 46.0	14 Bulkley +39 Cassiar	Bulkley LRMP approved. Cassiar-Iskut-Stikine recommended plan under review.	9,646 - 121,584 126,071 – [6*]942,485
Kalum	H: 10.3 I: 44.6 L: 45.0	51	Underway.	13,490 – 321,000
Kispiox	H: 10.4 I: 47.0 L: 42.6	30	Approved; higher level plan in place.	15,236 - 70,385
Lakes	H: 9.5 I: 47.9 L: 42.6	14	LRMP approved. Higher level plan close to approval.	38,308 – 112,500
Morice	H: 9.9 I: 47.1 L: 43.0	22	No LRMP initiated.	19,094 – 114,828
North Coast	H: 10.0 I: 46.0 L: 44.0	63	CCLCRMP underway for southern portion of district. North Coast LRMP initiated.	5,347 - 97,094
Prince Rupert Region Summary	H: 9.91 I: 46.30 L: 43.79	233	Approved in all or part of 3 districts.	5,347 – 321,000

[6*] Tatshenshini River Landscape Unit

TABLE 7. VANCOUVER REGIONAL LANDSCAPE UNIT PLANNING STRATEGY SUMMARY OF KEY DATA

Planning Area	BEO Distribution H:I:L%	Number of Landscape Units	Status of Regional Plan or LRMP	Landscape Unit Area (range in ha)
Campbell River [7]**VILUP Planning Area**	H: 21.3 / 20.5 I: 28.7 / 31.0 L: 49.9 / 48.5 (VILUP) (District) distribution	26 +6 [8](CCLCRMP)	VILUP approved; Higher level plan being finalised. CCLCRMP underway for remainder.	11,866 - 140,209
Chilliwack	H: 9.0 I: 44.5 L: 46.5	23	Lower Mainland PAS Process complete.	31,502 - 340,074
Mid Coast	H: [*9] I: L:	56 (CCLCRMP)	CCLCRMP underway.	16,263 – 94,449
Port McNeill **VILUP Planning Area**	H: 2.5 / 3.4 I: 50.6 / 51.4 L: 46.9 / 45.3 (VILUP) (District) distribution	16 +24 (CCLCRMP)	VILUP approved. Higher level plan being finalised. CCLCRMP underway for remainder.	1,384 – 127,147
Queen Charlotte Islands	H: 10 I: 45.1 L: 44.9	24	LRMP proposed but currently not active.	13,131 - 110,602
South Island **Vilup Planning Area**	H: 2.5 I: 63.6 L: 33.9 (VILUP distribution)	41	VILUP approved. Higher level plan being finalised.	6,831 - 95,767
Squamish	H: 9.7 I: 44.6 L: 45.8	21	Lower Mainland PAS Process complete.	22,081 - 127,315
Sunshine Coast	H: 10.1 I: 50.0 L: 39.9	24	Lower mainland PAS Process complete.	30,177 - 183,466
Vancouver Region Summary	H: 9.6 I: 46.9 L: 43.5	261	Strategic plans complete or underway in most of the region.	1,384 - 340,074

[7] South Island and the Vancouver Island portions of Campbell River and Port McNeill Forest Districts are combined to form the Vancouver Island Land Use Planning area (VILUP). The 10-45-45 BEO target is applied to this entire planning area rather than to individual districts and is 9.5 H/ 47.4 I/ 43.1 L. BEO percentages are shown for the VILUP portion of these districts as well as the district as a whole.

[8] These landscape units are in the Campbell River Forest District but are managed under the CCLCRMP.

[*9] BEO percentages are not shown for areas managed under the CCLCRMP as the LRMP process is still in progress.

TABLE 8. SUMMARY OF RED-FLAGGED LANDSCAPE UNITS BY REGION

Region	Number of Landscape Units	Number of Red Flags (% Total LUs)	Key Red Flag Issues
Cariboo	160	0	• No red flag units were identified through the RLUPS review.
Kamloops	91	77[*10] (85%)	• Shortfall of old growth in NDT4. A regional committee is studying the issue.
Nelson	188	141 (75%)	• Old growth deficit • Impact on licensees • Scarce biodiversity values • Administrative issues
Prince George	324	224 (69%)	• Seral stage target deficit; • Multiple licensees; • Licensee concerns; • Insufficient data.
Prince Rupert	233	13 (6%)	• Licensee concerns with assigned biodiversity emphasis; • Monitoring for impacts.
Vancouver	175[*11]	63 (36%)	• Old growth deficit in non-contributing or THLB; • Insufficient data/inventory; • Impact on licensees.

Provincial Totals:

Number of landscape units	1171[*12]
Number of red-flagged landscape units	518
% of red-flagged landscape units	44%

[*10] Some landscape units have a relatively small percentage of NDT4, but are included for consistency.
[*11] Landscape units managed under the CCLCRMP have been deferred from the RLUPS process for the time being, including red flagging, and so are not included here.
[*12] Does not include those landscape units managed under the CCLCRMP.

3.1 Regionally Specific Issues

During the completion of RLUPS and through subsequent correspondence with Ministry of Forests and Ministry of Environment staff, districts and regions voiced key issues affecting the progress of landscape unit planning. Some regions identified an increased need for staffing and mapping resources such as GIS facilities to complete landscape unit planning initiatives. RLUPS revision and implementation delays caused by ongoing discussion between agencies and/or interest groups was cited as another issue. Regions also identified the continued concern of licensees regarding potential timber supply impacts and future costs as an area needing to be addressed.

Following is a summary of key issues identified in the RLUPS review by region:

Cariboo

- Ministry of Forests and forest industry staff are concerned as to whether adequate resources exist to allow for timely completion of sub-regional plans;
- On-going sub-regional planning may result in revision to the Cariboo RLUPS including changes to landscape unit boundaries and biodiversity emphasis assignment;
- Sub-regional planning will determine resolution of red flag issues;
- Meetings are currently planned with Statutory Decision Makers to finalise a Cariboo-specific landscape unit planning process that can be disseminated to agency staff and stakeholders.

Kamloops

- Over 80% of landscape units in the region are affected by deficits of old seral stage forest in Natural Disturbance Type (NDT) 4;
- Biodiversity emphasis is partitioned along NDT types rather than landscape unit boundaries in Merritt Forest District; designation is interim pending release of Timber Supply Review 2;
- Kamloops Forest District is exempt from chapter 5 requirements in *Higher Level Plans: Policy and Procedures* because LRMP work preceded Chief Forester direction;
- Designation of overall biodiversity emphasis distribution for region is deferred until LRMPs are completed in two Timber Supply Areas (Okanagan TSA comprising Salmon Arm, Vernon and Penticton Districts and Lillooet TSA comprising Lillooet District).

Nelson Region

- Consensus has been slow between Ministry of Forests and Ministry of Environment regarding RLUPS revisions in one district;
- Some licensee concerns exist regarding biodiversity emphasis assignment in areas of commercially valuable timber and, despite organisation of open forum meetings, progress remains slow on resolution;
- Red flagging was high for the region but a review suggests that not all flagged units are significantly impacted;
- Biodiversity emphasis is split for 60 landscape units in the Nelson Region in order to better represent "targeted ecosystems" and wildlife;

- The Revelstoke Minister's Advisory Committee determines Revelstoke Forest District's strategy for landscape unit planning.

Prince George Region

- A regional landscape unit planning project signed by the MoF Regional Manager and MELP Regional Director provides a framework for landscape unit planning in the Omineca Peace Region (Prince George) and includes a process for achieving public review of landscape unit plans;
- Red flagging was high for the region but a review suggests that not all flagged units are significantly impacted;
- Some landscape units have received draft biodiversity emphasis and boundary lines pending review by various stakeholder groups.

Prince Rupert

- Kalum Forest District is waiting for completion of the LRMP to guide landscape unit implementation and finalise strategies;
- RLUPS issues have been resolved at the district level in the Kispiox Forest District and are pending MELP agreement;
- LRMP approval in some districts may result in further changes to landscape unit boundaries and biodiversity emphasis assignment.

Vancouver

- Districts indicate that completing planning objectives, delineating boundaries and assigning biodiversity emphasis for landscape units by 2002 will be difficult given limited mapping resources and staffing shortages;
- Licensees have considerable concerns over the potential for additional costs and timber supply impact with landscape unit planning. They disagree with the exclusion of Clayoquot Sound from the Vancouver Island planning area;
- Districts are looking for direction on resolving red flag issues and will view biodiversity emphasis and landscape unit boundaries as draft until direction is provided.

4.0 Future Direction

4.1 Data Analysis

As districts complete tables 2.8, 2.9, and 3.1 of the LUPG, which provide information pertinent to OGMA creation and WTR management, the data will be analysed and forwarded to regional staff where it will be subject to further review. Data tracking and analysis will serve as the basis for monitoring of area-based impacts and will ensure that landscape unit objectives are implemented effectively. The Forest Practices Branch and MoF Information Management Group will provide training on the use of the Landscape Unit Planning (LUP) Template, a computer program that will help to simplify and increase the pace of landscape unit data analysis and OGMA/WTR patch delineation. One of the first steps will be to set provincial standards for submission of data for use in the LUP Template that will ensure consistency in type and quality of information used for planning decisions.

4.2 Writing Objectives & Legal Establishment

With the completion of the RLUPS review and LUPG training, each District Manager in consultation with the Designated Environment Official, will now develop landscape unit objectives. Priority in developing objectives and ensuring their legal establishment will be on creation of old growth management areas and wildlife tree retention.

MoF ministry staff, in co-operation with MELP staff, will provide training on establishing and writing landscape unit objectives to district and regional planners as well as others involved in the planning process such as forest industry staff. Training will ensure that objective writing corresponds with regulations outlined in chapter 5 of *HLP: P&P* as well as the LUPG. Forest Practices Branch, in co-operation with the Habitat Branch of MELP, will lead the development of additional policy and procedures as necessary to support implementation.

4.3 Monitoring

The Ministry of Forests, in co-operation with MELP, is developing a monitoring strategy that will track the effects of landscape unit planning on biodiversity conservation and timber harvesting. In the year 2000, the goal is completion and implementation of 75 landscape units throughout the province including objective writing and delineation of OGMAs. This small number of units will provide a window to establish and evaluate monitoring strategies and management approaches to be applied to the rest of the province.

Area-based impacts for all 75 units will be tracked through analysis of tables outlined in the LUPG (2.8, 2.9, 3.1). Monitoring the location, number and attributes of OGMAs and, where possible, WTR patches, in these landscape units will enable government staff to gauge the effectiveness of biodiversity conservation. Ministry staff will also look at policy effectiveness, resolution of red flag issues and adaptive management capabilities in order to make landscape unit planning an effective and continually evolving resource management tool.

In subsequent years, government will most likely monitor landscape unit planning through evaluation of fewer indicators and by auditing randomly selected units for a variety of factors including biodiversity management and timber impacts.

4.4 Communication and Extension

Continued correspondence between district and regional staff and headquarters will ensure that OGMA, WTR, as well as other landscape unit objectives are successfully established and that progress is made toward meeting the 2002 implementation date. MoF Forest Practices Branch and MELP Habitat Branch staff will address new issues, questions and concerns as they arise regarding such topics as implementation, policy interpretation and conflict resolution. The LUPG also provides an outline for resolving issues that may arise during the process of locating old growth management areas and wildlife tree patches. Districts and regions are being encouraged to find creative solutions

for these issues using the LUPG and with the assistance of Forest Practices Branch and Habitat Branch personnel where needed. Ministry staff will also facilitate discussion and exchange of ideas among districts through attending ad hoc meetings, workshops and through maintenance of the Forest Practices Branch website.

5.0 Conclusions

Regional Landscape Unit Planning Strategies have been revised and resubmitted for all six BC forest regions, thus ensuring compliance with the *Landscape Unit Planning Guide* and Chief Forester Direction as outlined in chapter 5 of *Higher Level Plans: Policy and Procedures*. Most districts have now established landscape units and designated biodiversity emphasis generally in accordance with a THLB distribution of 10% high, 45% intermediate and 45% low. Several districts have deferred these tasks pending completion and approval of LRMPs and other resource management plans. Districts have identified landscape units possessing issues that could impede implementation and requiring further attention as "red flagged". Districts are working to resolve red flagged issues with the consultation of licensees and other stakeholders to address these issues.

Monitoring strategies developed by government agencies will assess progress of landscape unit planning and objective writing as well as how red flag and other issues identified in the RLUPS reports are addressed. Data tracking and analysis will serve as the basis for monitoring of area-based impacts. Training on OGMA delineation and WTR has been completed and planning staff in each district will now begin to establish these areas and their corresponding objectives. Further training on writing and establishing landscape unit objectives will be delivered. The Forest Practices and Habitat Branch will provide additional extension and communication to regions and districts on other issues that arise during implementation of landscape unit planning.

Appendix 1

RLUPS Checklist for Reviewing the Delineation of Draft Boundaries and Assignment of Emphasis for Consistency with Chapter Five HLP:P&P

Section/Page	Summary of Direction
5.9.2/LU9/last paragraph	• delineation of boundaries assigned to staff with expertise • MOF/MELP co-operation
5.9.2/LU10/second paragraph third paragraph	• delineated simultaneously for the region • use (ecological) topographic and geographic features primarily
5.9.2/LU10/fourth paragraph	• if use of secondary criteria is necessary, provide rationale
5.9.2/LU11/third paragraph	• each LU entirely within one district
5.9.2/LU11/last paragraph	• consider RMZs, local resource use plans in boundary location
5.9.2/LU12/first paragraph	• include Parks within draft LU boundaries
5.9.2/LU12/fourth paragraph	• size is based primarily on ecological factors
5.9.2/LU13/fourth paragraph	• clearly document rationale for location and size in the RLUPS
5.10.2/LU13/last paragraph	• assign emphasis to all district LUs after ranking
5.10.2/LU13/last paragraph	• higher emphasis LUs limited to 10% of THLB
5.10.2/LU13/last paragraph	• flexibility for intermediate and lower emphasis at district but generally must be 45% for each forest region
5.10.2/LU14/first paragraph	• in absence of HLP direction, DM may assign emphasis with approval of DEO
5.10.2/LU14/third paragraph 1. Apply Ecological Criteria	• use criteria provided and a decision process to rank biodiversity values
5.10.2/LU14/third paragraph 1. Apply Ecological Criteria	• document process, show all methods and calculation
5.10.2/LU15/fourth paragraph 1. Apply Ecological Criteria	• assign proposed emphasis to LU with inventories above seral stage targets

5.10.2/LU15/fourth paragraph 2. Rank timber value for each LU	• select from the criteria provided and use a decision process to determine rankings
5.10.2/LU15/fourth paragraph 2. Rank timber value for each LU	• document process, show all methods and calculations • include timber value criteria • potential economic value of a LU * site prod., species, age, operability * silviculture and eng. invest. * proximity to processing facility * constraints to maintain non-timber values
5.10.2/LU16/second paragraph 3. Rank or consider other resource values	• develop criteria and a decision process to rank LUs for other resource values • document the ranking process or develop process that ensures other resource values are considered
5.10.2/LU16/fourth paragraph 4. Determine THLB and ha allocated to each emphasis	• calculate the THLB for the planning area
5.10.2/LU17/second paragraph 5. Comparatively evaluate HLP, resource values by LU and recommend an emphasis for each LU	• develop biodiversity emphasis – may be useful to prepare a summary table
5.10.2/LU17/last paragraph 5. Comparatively evaluate HLP, resource values by LU and recommend an emphasis for each LU	• generally one emphasis per LU • if more than one emphasis then provide a "strong rationale"
5.10.2/LU18/third paragraph 5. Comparatively evaluate HLP, resource values by LU and recommend an emphasis for each LU	• assign HBE to LU with high biodiversity value up to 10% * if LUs have same biodiversity value, assign HBE preferentially to SRMZs, etc.
5.10.2/LU18/third paragraph 5. Comparatively evaluate HLP, resource values by LU and recommend an emphasis for each LU	• if LUs have same biodiversity value, assign HBE with least impact on timber

5. Comparatively evaluate HLP, resource values by LU and recommend an emphasis for each LU LU 18/final paragraph	• disperse HBE throughout area • LBE applied to less than ½ of any subzone within planning area
5.10.2/LU19/first paragraph 6. Present information to planning table (if they assign BEOs) or incorporate directly into RLUPS	• present information to planning table (if they assign BEOs) or incorporate directly into RLUPS
5.11.2/LU19/fourth paragraph (Iterative Review)	• ensure draft emphasis does "not obviously impact severely on short term timber supply"
5.11.2/LU19 –LU20 (review is not intended to be detailed, full-scale, unit by unit timber supply …analysis)	• criteria to identify potential conflict. * deficits * chart relocation * critical biodiversity value * limited options for OGMAs
5.11.2/LU20/second paragraph	• if major impact, consider adjustments to mitigate, but ensure ecological integrity maintained